

StrataGrid Geogrid

Geogrid and Direction (MD, CD)	Polymer (PET, HDPE, PP)	Aperture Size (inches)	T _{ult} (lb/ft)	T _{2%} (lb/ft)	T _{5%} (lb/ft)	J _{ave} (lb)	J (m-N/deg)	RF _{CR}			RF _D
								3-yr	75-yr	100-yr	
								26280 hrs	657000 hrs	876000 hrs	
								4.419 62536	5.8175 6537	5.94250 4106	
SG 200 (MD)	PET	0.75 x 0.65	3400					1.43	1.54	1.55	1.30
Borrow ($\phi = 30^\circ$)											
Geogrid and Direction (MD, CD)	RF _{ID}	RF			T _{al} (lb/ft)			C _i	F*	C _{ds}	ϕ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 200 (MD)	1.1	1.57	2.20	2.22	2161	1544	1534	0.8	0.462	0.8	24.79
Fine Aggregate ($\phi = 34^\circ$)											
Geogrid and Direction (MD, CD)	RF _{ID}	RF			T _{al} (lb/ft)			C _i	F*	C _{ds}	ϕ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 200 (MD)	1.15	1.64	2.30	2.32	2067	1477	1467	0.8	0.5396	0.8	28.35
Coarse Aggregate ($\phi = 38^\circ$)											
Geogrid and Direction (MD, CD)	RF _{ID}	RF			T _{al} (lb/ft)			C _i	F*	C _{ds}	ϕ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 200 (MD)	1.35	1.93	2.70	2.72	1761	1258	1250	0.8	0.6250	0.8	32.01

Where,

- T_{ult} = wide width tensile strength @ ultimate (lb/ft),
- T_{2%} = wide width tensile strength @ 2% strain (lb/ft),
- T_{5%} = wide width tensile strength @ 5% strain (lb/ft),
- J_{ave} = average junction strength per rib (lb),
- J = aperture stability modulus (m-N/deg),
- RF_{CR} = creep reduction factor for 3, 75 and 100-year design life,
- RF_D = durability (degradation) reduction factor,
- RF_{ID} = installation damage reduction factor,
- RF = RF_{ID} \times RF_{CR} \times RF_D for 3, 75 and 100-year design life,
- T_{al} = short-term design strength for 3-year design life (lb/ft) = T_{ult} $\frac{1}{1+0.002}$ (RF_{ID} \times RF_{CR}) or LTDS for 75 and 100-year design life (lb/ft) = T_{ult} $\frac{1}{1+0.002}$ RF,
- C_i = coefficient of interaction,
- F* = pullout resistance factor = C_i tan ϕ ,
- C_{ds} = coefficient of direct sliding and
- $\tan \phi$ = soil-geogrid friction angle (deg) = C_{ds} tan ϕ .